



THOMAS G. NEWMAN,  
EDITOR.

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## EDITORIAL BUZZINGS.

May! most beautiful month of May!  
Bright with sunshine or dripping in showers;  
With flying feet you pass away,  
But your gifts outnumber by far your hours.

The Detroit International Fair and Exposition will be held at Detroit from Aug. 26 to Sept. 5, 1890, and will use the premium list adopted by the Michigan State Bee-Keepers' Association. The managers are to be congratulated upon securing friend H. D. Cutting to act as Superintendent of the Bee and Honey Department. He may be depended upon to make it pleasant for exhibitors.

The managers of the Exposition are making preparations for a monster exhibit, and the bee-keepers must not be behind. Their exhibit should be the finest ever made at any Fair.

**Pomology.**—The United States Department of Agriculture is preparing, under the supervision of the Chief of the Pomological Division, to issue a very full report on the many varieties of fruits grown in this country. This report will consist largely of the actual experience of practical fruit-growers in all sections of the country, and in order that it may be as comprehensive as possible, the Pomologist, Mr. Van Deman, will be obliged to all practical fruit-growers willing to contribute their experience and reply to the circular of interrogatories which he has prepared for the purpose, who will send him their name and post-office on a postal card—address H. E. Van Deman, Pomologist, U. S. Department of Agriculture, Washington, D. C. All those who assist in the work of this report in the manner indicated, will receive a copy when published.

The Columbian Fair will be held in Chicago, in 1893. The Fair Bill having passed both houses of Congress, and receiving President Harrison's signature, it thus becomes a law. A great Naval Display will be given in New York harbor just before the Fair proper opens in Chicago. That will serve as a signal to the whole world, that the grandest exposition of this or any previous century invites all nations to visit Chicago, and behold the wonderful progress of civilization, as shown in the finest display of products and manufactures ever brought together in one exhibition. Chicago, as well as America, has an opportunity to cause honor and glory to be reflected upon her people, which she will not be slow in embracing.

Let the bee-industry also measure up to the opportunities of the time and place; thus will its devotees share in the resulting honors and benefits.

This will give Dr. A. B. Mason, on behalf of the bee-keepers of the United States, and Mr. R. McKnight, as the representative of Canadian apiarists, a splendid chance to display their abilities in providing for magnificent exhibits of apiarian products and supplies.

The Rights of Bees to exist and gather honey, and of the pursuit to a place among commercial products, notwithstanding the prejudice of the ignorant, are thus stated in the Rhode Island Experiment Station Bulletin No 4, under the heading of "Bee-Keeping."

We believe and have endeavored to show that bee-keeping is of sufficient importance to deserve the encouragement and protection of the State. That bees are of great service to growers of various crops, as well as profitable to their keepers for their honey and wax. That honey-bees do not injure sound fruit, and that the damage done to unsound fruit must be comparatively light. That to prohibit bee-keeping is unconstitutional, and that no one need refrain from keeping them on account of opposition due to ignorance, fear, jealousy, or the ill-will of their neighbors (though all reasonable precaution should be taken to prevent annoyance or accident). That this prejudice against bees is sure to give way to public opinion in their favor. That a widespread knowledge of bee-keeping would increase the products of the State.

The Flower Feast, or Combat of Flowers, was celebrated in the city of Mexico, on April 27, 1890. Fully 100,000 people were on the promenade of La Reforma and the Avenue Juarez. Besides about 500 unadorned carriages containing sight-seers, there were over 40 decorated with flowers and ribbons, and fully 1,000 horsemen. The quantity of flowers must have been enormous, as 4 carloads came from Julapa, alone. What a Paradise for bees!

J. & E. Pockat, of Marion, Wis., have issued a 4-page Catalogue of Bee-Keepers' Supplies.

### Grafting and Grafting-Wax.

As this is the season for grafting, and as many of our readers are also growers of fruits, we give the following directions for doing the work of grafting apple-trees, and also a recipe for making and using the wax employed. The importance of selecting the best varieties of fruit in grafting, should not be overlooked, as well as to see that the work itself is properly done. These paragraphs are taken from one of our agricultural exchanges:

The implements needed for grafting apple-trees are: A small saw, for cutting off the branches for grafting; a good, strong knife with a thick back, to make clefts in the stock; a small knife, kept very sharp, with which to prepare the cions; a grafting-wedge and chisel, and a mallet. The grafting should be done as soon as all danger of severe frosts is past, and the buds show signs of swelling on the trees to be grafted. The wood to be used for cions should be cut before the buds swell, and be stored in damp sawdust or moss in a cellar.

There are many compositions used as a grafting-wax, but we have found none better than one made of the following: Four parts of common rosin, two parts of beeswax, and one part of common tallow melted together, and when cool, worked up into convenient rolls. If it is to be used in cool weather, add a little more tallow. Some of this wax may be spread when warm on cloth, and this cut into strips for wrapping around large stocks.

Prof. N. W. McLain, Director of the Agricultural Experiment Station of the University of Minnesota, at St. Anthony Park, gave us a call last week. The Professor has had a three-months attack of *La Grippe*, which has left on him a visible manifestation of its strength. Like many others, he cannot "shake" the monster off. The Professor's management of the Agricultural College seems to have met the expectation of the Board of Managers, and the Work of the Station is being greatly extended and enlarged. The Professor is a good manager, and will doubtless become very popular at the College.

M. A. Williams, of Berkshire, N. Y., has issued a 12-page Catalogue of Bee-Keepers' Supplies, with calendar attached to hang on the wall. It is unique, but very late—4 months of the calendar having already expired. Mr. Williams also buys honey in its season.

The Bee-Question—"To bee or not to bee"—is discussed quite forcibly in the following conversation, which shows the advantage to be derived from keeping on right side, or end, of anything—even though it is only a bee:

Breslow—Say, Cummings, don't you want to buy a hive of bees?

Cummings—Not I. Tried 'em a year, and was stung just 647 times.

Breslow—They must have been cross. You didn't get on the right side of 'em.

Cummings—Great Scott! I did, too. I was extra careful about that, but I always seemed to strike the wrong end.



## GLEAMS OF NEWS.

## The Wiley Lie About Honey.

In the *Popular Science Monthly* for May, we find a very interesting article from Allen Pringle, of Selby, Ont., replying to the celebrated Wiley lie in the very periodical which first gave that monstrous falsehood to the World. Millions of copies of the Wiley fabrication have been made by other periodicals—every one of which should now be glad to publish the refutation—that is, if they desire to be honest!

On account of the interest which beekeepers have in the thorough contradiction of that diabolical deception of Wiley, given in the *Popular Science Monthly* 9 years ago, we will copy Mr. Pringle's article in its entirety. Here it is:

## Artificial Honey &amp; Manufactured Science,

By ALLEN PRINGLE,

President of the Ontario Bee-Keepers' Association.

We are told that this is a scientific age, and the statement is undoubtedly true. The world now more than ever before looks to science as a secular if not a spiritual guide. However much their speculations may be questioned and controverted, the scientific book and the scientific man are popularly accepted as authority, at least on matters of physical and historical fact. The veracity of science, therefore, is, or ought to be, above suspicion.

How careful, then, ought the teacher and exponent of science to be that his assertions are true; that his alleged facts are facts; and that even his speculations are free from the appearance of dogmatism! He needs to be especially particular when writing for the general public, for people untrained in science will accept his statements as expert testimony. Errors will thus be sure to mislead his readers, many of whom are without the knowledge that would enable them to discriminate between the true and the false in his assertions.

In the *Popular Science Monthly* for June, 1881, appeared an article on "Glucose and Grape-Sugar," by Prof. H. W. Wiley. In that article the following unfortunate statement was made: "In commercial honey, which is entirely free from bee-mediation, the comb is made of paraffine, and filled with pure glucose by appropriate machinery." To say that there was not one word of truth in that extraordinary assertion is the short and proper way to put it, and that is exactly what I undertake to say. There was not a tittle of evidence that any such honey had ever been made, up to that time, nor is there a particle of evidence that any such honey has since been made.

Nevertheless, this vile slander on an honest and honorable industry has done incalculable injury to bee culture in America, if not throughout the world. A lie is said to travel half round the world while the truth is getting ready to start, and this one proved no exception. Though contradicted and refuted over and over again, it still lives and is still going. Newspapers still keep iterating and reiterating Prof. Wiley's slander, but they seldom publish a correction.

Thousands of people, common and uncommon, still believe that scientific yarn that comb honey is manufactured through-

out without "bee-mediation," and why should they not! The former believe it because the newspapers say so, and the latter because the magazines and encyclopædias say so; for it is a fact that this itinerant fiction has actually found a place in the American Cyclopædia, and the American Supplement to the Encyclopædia Britannica. In justice to the latter, however, it must be said that the British work, whose publishers repudiate the American Supplement, contains nothing of this.

Here is what the American Cyclopædia says on the subject: "Glucose is very extensively fed to bees, which eat it with great avidity, and store it away unchanged as honey. It is also put up directly in trade as honey—with which bees have had nothing to do—being put by means of appropriate machinery into artificial combs made of paraffine" (page 834, Vol. VIII, edition of 1885).

The American Supplement to the Encyclopædia Britannica has this information on the subject: "Honey is manufactured on the same plan, only here the bees are employed to assist in the fraud. They are furnished with a supply of starch-sugar, which they store in their combs, when these combs are also fraudulent, being made from paraffine and furnished to the bees, who fill them with glucose and cap them with genuine wax. It is difficult to see how the art of adulteration could be carried further" (page 41, Vol. I, Hubbard Brothers, Philadelphia and New York, 1885).

Argument and refutation failing to kill the falsehood, the editor of *Gleanings in Bee-Culture*—a responsible man financially—offered a reward of \$1,000 to any one (including Prof. Wiley) who would produce some of the so-called "manufactured" honey, or designate the place where it was made or could be found. This offer is still open and good. The writer of this article also offered through the press a reward of 100 colonies of bees (equal to about \$1,000) to any one who would produce some of this "artificial honey." This offer also is still open and good. None, however, has ever been produced. No one has yet come forward to claim the cash or the bees.

Prof. Wiley had supplemented the assertion above quoted with the following additional information, probably to encourage the manufacturers: "This honey" (that is, the manufactured article) "for whiteness and beauty rivals the celebrated real white-clover honey of Vermont, but can be sold at an immense profit at one-half the price." Now, had that business of honey-manufacture been as practical as profitable, the temptation to embark in it would have been almost too much for human nature to resist. But it seems nobody went in, while nearly everybody believed that other bodies were in.

However, Nature's dearth is likely to produce conviction where facts, arguments, and rewards failed to do so. The seasons of 1887 and 1888, especially the latter, were unpropitious for the "little busy bee," and yielded but little honey. The crop was a general failure, not only in America but in Europe. The modicum of honey produced, especially of comb honey, was soon exhausted, and the dealers as well as consumers, North, South, East and West, were crying out for honey.

The producers were inundated with letters and orders which they could not fill. Now, here was the grand opportunity for the manufacturers of "artificial honey." If the article could be sold "at an immense profit at half the price" of the genuine article, as Prof. Wiley assures us, these bogus manufacturers could have coined money—there were "millions in it" apparently. But they failed to appear. The

glucose was available, the paraffine ditto, and the "appropriate machinery" ought, in the interval under the law of progress, to have become still more "appropriate" and perfect in its work; but, strange to say, the famine of honey continued.

The tempting prices were offered in vain. Not a pound of the stuff ever "materialized," so far as anybody could find out. Nor was this gap in the extracted honey caused by the drouth, filled by any artificial substitute, which also goes to prove that the prevalent notion that honey is extensively adulterated has very little foundation in fact. Considering the comparatively low market prices of honey the past few years, and the facility with which the genuine article can be produced in modern scientific bee-culture, adulteration would hardly pay for the trouble.

That there is but very little adulteration, either of comb or extracted honey, may be safely asserted. The prevalent popular belief to the contrary may be accounted for in two ways—by the prevalent ignorance of the character, and what I might call "the habits of honey," and by the erroneous teachings and misleading reports of the authorities under review.

While it may be said, in general terms, that honey chemically consists of sugar and water, in the proportion usually of about 75 per cent. of the former to 25 of the latter, these elements vary so much in their proportions in different grades of honey, gathered from so many different flowers at different seasons of the year, that there is no sure test, chemical or other, of honey.

Even the polariscope, but recently considered a certain test of its purity, and still so considered by some analysts, is found to be uncertain and unreliable. While generally in pure honey the ray of light is turned to the left, some samples, equally pure, though perhaps stored rapidly and capped prematurely, may contain so much cane sugar that the ray is turned to the right. Hence the mistakes of chemists, relying upon the integrity of the polariscope, in passing upon the purity and impurity of honey. They have pronounced samples adulterated which were known to be the pure products of the flowers gathered by the bees.

Every apiarian specialist knows that during the course of one good honey season, beginning with the early spring bloom of willow, maple, fruit, etc., and ending with the fall bloom of golden-rod, buckwheat, etc., he can get nearly a dozen different grades or kinds of honey—in color from the very light, almost transparent linden, to the turgid and black buckwheat, and in flavor from the mild and delicious sweet to that which is strong, rank, and quite unpalatable to some tastes. Let a person with no special knowledge of honey be presented with the former for his sight and palate, and then with the latter, and, ten to one, he will declare that the one sample is not honey at all, but a vile imitation.

Then, again, good, pure honey, through mismanagement, may become so deteriorated in quality and altered in taste as to at once provoke suspicion of adulteration.

Granulation was also regarded as a sure test of the purity of honey, but it is not so, as some pure grades, containing only the non-crystallized sugar, will not granulate; while other samples mixed with glucose will granulate. The light-colored and best grades of honey will be fine-grained in granulation, while other grades will be coarse-grained, and present the appearance of sugar for certain to the uninitiated.

When an honest man falls into an error, he is always willing to correct it as soon as it is pointed out to him and proved to be such. Prof. Wiley was expected to do that much at least toward repairing the injury



he had wittingly, or unwittingly, done the whole fraternity of bee-keepers. But Prof. Wiley failed to do so, so far as the public knows. He neglected—I may safely say refused—to make the *amende honorable*. The apiarists became incensed, indignant, and demanded proof of his assertion or a retraction. The Professor of science vouchsafed neither the one nor the other.

Finally, after years had elapsed, being still hotly pursued by the apiarists and bee-periodicals, especially the AMERICAN BEE JOURNAL, Prof. Wiley did manage to make an explanation or "statement;" which, however, in no way improved his position before the public either as an honorable man or a professor of science. About 7 years after uttering the slander to the world, he speaks, and makes this astounding admission:

"At the time, I repeated this statement more in the light of a pleasantry than as a commercial reality, for I did not believe that it was possible commercially to imitate the comb." (Letter dated Washington, D. C., May 29, 1888, addressed to W. M. Evans, and published in the AMERICAN BEE JOURNAL of June 13, 1888.)

In this attempted justification of himself, Prof. Wiley says that he had heard from a friend of his (now deceased), that comb honey was manufactured in Boston as stated above. On the strength of that, and alone, he made the deliberate assertion which I have quoted from the *Popular Science Monthly*.

Now, after reading and re-reading the context in the *Popular Science Monthly* article, I find not a shadow of evidence that this statement was meant for a fiction and not for a fact. It is given seriously and deliberately, along with other alleged scientific facts, with no intimation or indication whatever of its spurious character.

The readers (and no doubt the publishers) of the *Popular Science Monthly* accepted the statement in good faith as a fact. The newspapers, of course, accepted it as true from so respectable an authority as the *Popular Science Monthly*, and even the encyclopedias finally took it in. Indeed, nobody, it seems, took it as a fictitious "pleasantry," or even dreamed it was meant for one, till the exigencies of the case required such a construction (or misconstruction) from the author himself.

If it really was meant as a harmless scientific squib, with no *malice prepense*, the question arises, How is it that the Professor neglected to set the matter right when he found that everybody was taking his joke seriously, to the great detriment of an important industry, and the calumnious aspersion of honest honey-producers?

#### THE WORKER-BEE THEORY.

Another example of spurious science is now before me. The *Medical Standard* for June, 1889, contains a leading article on Embryology, by a learned New York doctor, in which we are gravely informed that a "worker-bee is a highly organized creature, with a well-developed brain, wonderful sense-organs, intricate muscular apparatus, and yet it is an offspring of an unimpregnated queen-bee."

Now, this is all well put and quite true, except the last clause, which is just the opposite of the truth. Any apiarian specialist could have told the doctor that while it is true that the virgin queen-bee lays eggs which produce drones or males, she never deposits eggs which produce females—that is, workers and queens—until after she is impregnated by the drone. Hence, the worker-bee is not "an offspring of an unimpregnated queen-bee."

While it would be obviously unfair and unreasonable to hold the *Monthly* morally responsible for the specimen of *willy* science

and its results to which this article refers, it is, perhaps, not entirely free from blame in allowing the matter to rest uncorrected so long. I take the liberty of here suggesting to publishers of encyclopedias and scientific works, the wisdom of first submitting doubtful points and dubious assertions, made by men outside their special departments, to practical men in such departments, whether the latter be learned or unlearned, for the knowledge of an unlearned man touching his own particular line of business (even the science of it) may exceed that of the scientist both in accuracy and extent. Such a course would often save the specialist from humiliation, and spare the public the infliction of some very queer science, which, not infrequently, fails to dovetail with every-day facts.

In a letter from Mr. Allen Pringle, just received, he comments upon the above article and its publication in the *Popular Science Monthly* as follows:

The article came into existence in this way: About 8 years ago Prof. Wiley contributed an article to the *Monthly* on "Glucose and Grape Sugar," in which he slandered every bee-keeper in the world. A few months ago I was invited by the editor of the *Popular Science Monthly* to contribute an article to its pages dealing with Prof. Wiley's misrepresentations, he (the editor) having but recently become aware that Prof. Wiley's article had done injury to American bee-culture, and being willing and anxious, as soon as so enlightened, that the error should be exposed and refuted through the same medium of its original promulgation.

This was highly creditable and honorable on the part of the *Monthly*, and stands in unpleasant contrast with the conduct of the author of the mischief when his error and its baneful effects were pointed out to him and urged upon him time and again.

Of course I responded to this appeal on the first opportunity; but, as is the case with most magazines of this class, pressure of matter delayed the appearance of this article for a few months. But it is now published, and it remains to be seen whether Prof. Wiley will still make the *amende honorable*, so far as he can, through the same medium.

ALLEN PRINGLE.  
Selby, Ont., April 26, 1890.

## QUERIES and REPLIES.

### Swarms Decamping After Being Hived.

Written for the American Bee Journal

QUERY 706.—Are new swarms that are hived on the old stand, more liable to decamp than if placed in a new location? The only swarm that I ever placed on the old stand, left the next day.—New York.

No, sir.—J. P. H. BROWN.

I think so.—EUGENE SECOR.

An experience of 18 years says, "No."—G. M. DOOLITTLE.

I do not think that it makes any difference.—A. J. COOK.

No, I do not think that has anything to do with it.—H. D. CUTTING.

I sometimes think that they are, but I do not know.—R. L. TAYLOR.

I do not know as they are. I always hive swarms that way, and never had one leave.—A. B. MASON.

I think not; but I have not tried it often enough to give a positive answer.—Mrs. L. HARRISON.

I believe that they have a little aversion to the old stand, though I am not sure.—J. M. HAMBAUGH.

No. I have never had one to come out after being so hived. My bees never swarm out after being hived.—M. MAHIN.

We have never seen a swarm leave the old stand, but we presume they may, if they have an unfertilized queen.—DADANT & SON.

No. I have hived all swarms on the old stands, and very seldom lost any. Years ago, when I placed the swarms on new stands, I lost lots of them.—C. H. DIBBERN.

I do not think that it will make any difference; at least, I have not found that it did in my own experience. Decamping is the exception to the rule, and does not seem to be governed by any rule whatever.—J. E. POND.

I do not know that there is any; I should think there might be less danger if put in an entirely new place, where the scouts could not find them.—C. C. MILLER.

No; your swarm left from some other reason. I have practiced this system a great deal, and do not recollect of ever having a swarm decamp, when properly hived in this manner.—WILL M. BARNUM.

No. Why should you think so, when you never tried but one? "One swallow does not make a summer," nor one experiment, and, many times, half a dozen on some points tell nothing definite.—JAMES HEDDON.

I have hived a great many swarms on the old stand, and never had one decamp; but I have had swarms attempt to decamp, that were placed upon a new stand in the hot sun. Excessive heat in the hive seems to be the principal cause of absconding swarms after hiving.—G. L. TINKER.

I think not; in fact, I think not half as likely to. I have hived all my swarms on the "old stand" for several years, and not one swarm has deserted. There is once in awhile—perhaps once in ten years—a season that produces chronic decampation. There is a cause for such a state of things, or rather causes, but I cannot discuss them here for want of space. It is enough to say that scarcity of pollen may induce bees to decamp for other quarters, and the disturbed state of two or more queens with the swarm will break them up in many cases. The latter is the most fruitful cause of desertion.—G. W. DEMAREE.

We do not think that it makes any difference; superstition would be the only excuse for thinking that there was any difference.—THE EDITOR.

### Propolis or Bee-Glue on Hands.

—In manipulating the frames, the hands of the operator become quite sticky and gummy, and to remove this disagreeable matter readily is very desirable. Soapine is highly recommended for this purpose. It is a preparation of sal-soda and dried soap, and can be secured at nearly all grocery-stores at 5 cents per package, which will last a long time, if kept dry. It is used thus:

Take some warm soft water, and after wetting the hands, rub on a little soap, then pour a little of the powder into the palm of the hands and work them well together; this will soften the hard lumps of propolis, and will dissolve the thinner portions, which are then easily rinsed off.



## CORRESPONDENCE.

### SWARMING.

#### Bees Selecting a Home Before Leaving the Hive.

Written for the American Bee Journal  
BY G. M. DOOLITTLE.

Some seem to think that bees never select a home before they leave the parent hive, but I think that I have abundant proof to show that they do. Years ago, when my father was keeping bees, we had a swarm come out one day, and, without stopping to cluster at all, it struck a "bee-line" for a tree in a piece of woods about a mile distant.

Around this tree, bees had been seen at work by parties hoeing corn, as it was on the edge of a piece of woods; the bees going in and out of the hole (which was the entrance for the run-away swarm) in such numbers that the workmen thought that it was a "bee-tree" at first; but as the bees worked there only from ten to three o'clock, they thought that honey, or something else was stored there, which the bees were getting; but it transpired that these bees were those from our hive, which had selected this tree for their future home, and so went straight to it without clustering.

Once more: When I first commenced to keep bees, there were none but black bees in this section; but 2 years later an Italian queen was purchased by a bee-keeping friend, living about 4 miles distant. As I was anxious to learn all I could about the bees, I was a frequent visitor at this man's house, and as the Italian queen was purchased in August, I thought that I would wait a year before I procured the Italians, to see how they worked through one honey-season, as our honey-harvest is over before August.

The next year, in June, I was at this friend's house one day, when he said that he had something curious which he wanted to tell me. It was this: About one-half mile from his house was an apiary of black bees which he worked on shares, and while at work there, the day before, he saw Italian bees going in and out of a hive that was empty, and standing on a bench at one side of the yard. He thought that this was very curious, and so taking a seat near the hive, he watched them very closely, and found that the bees went in empty, but when they came out they had little bits of dirt in their mouths, and, by listening at the side of the hive, he could hear a scrap-

ing on the inside; said he to himself; "If I am not greatly mistaken, a swarm of bees from my yard intends to occupy that hive, and if they do so, I shall know it." Accordingly, he kept a horse bridled in the barn close by, each day between the hours of 9 a.m. and 3 p.m., ready to go with any swarm that might chance to try to get away.

The third day after this, while he was eating dinner, a swarm came out, and, in circling, they swung out toward this apiary, which he took as a sign that these were the bees that were going to the cleaned hive. He at once jumped upon his horse, when the bees, without clustering, struck out in the direction of this hive. He urged the horse to its fastest run, and arrived at the hive just in time to see the first bees of his Italian swarm settling down in front of the hive, into which the whole swarm entered.

I have always considered the last illustration as conclusive proof that bees do, in some instances, select a home before they leave the parent hive, while I believed that it was so, from the first evidence. If they do not, how will the doubting ones disprove the above facts, as I have given them?

#### THE SYRACUSE HONEY-MARKET.

On page 839 of the AMERICAN BEE JOURNAL for 1888, is a little matter which has been over-looked by me, although I had it marked for a reply at the time. In the article on that page, M. J. W. Tefft seems to wish to convey the idea that apiarists here cut prices on honey to Syracuse buyers, thereby giving quotations which come from that market, a deficiency of one-third as to price, under other markets, thereby injuring bee-keepers "from one end of the country to the other."

I can hardly conceive the object of that item, and the mentioning of the names there given, unless it was to injure the reputation of some of his fellow apiarists, by conveying a false impression. He says: "Syracuse is the home market of Messrs. Doolittle, House, Salisbury, Betsinger," etc., and gives figures to show, that, while honey was quoted from 14 to 20 cents in all other markets, Syracuse quoted it at from 10 to 13 cents.

It is no wonder that the editor calls for an explanation. Well, the explanation is about like this:

Syracuse is a very fickle market on all lines of produce, and, more especially, on honey. If a groceryman has a crate or two of honey, he considers himself abundantly supplied, so when more honey is offered, he will not buy, unless he can get the honey for about two-thirds its real value; the result being, that in proportion to its

population, not nearly as much honey is consumed in Syracuse as in other cities, consequently the "little" bee-keepers, who keep from 5 to 20 colonies, and who do not take a bee-paper, supply all its wants as to honey, at the low prices quoted.

For Mr. Tefft to try to lay the cause to the parties named, is only proof that he is ignorant of the matter about which he is talking; for, in my own case, I have not even tried to sell a pound of honey in Syracuse for the past 12 years; and, to my knowledge, very much, if not all, of the honey produced by Messrs. Betsinger and Salisbury has found a market elsewhere, for the past 5 years.

Prior to 1878, Syracuse was one of the best markets in the United States; for at that time there was a honey-buyer there who knew what honey was worth, and was willing to buy all that came to him, and pay all it was worth; but since his death, no one has seemed willing to take his place as a buyer. After trying in vain to get a party who knew all about this business as carried on by this buyer, to carry on the honey-trade, I left Syracuse, and sought a market elsewhere.

To show the reader that Syracuse was once a good market for honey, I will say that, in 1874, Mr. Betsinger and myself sold our honey there for from 28½ to 29 cents per pound—our whole crops being taken.

Borodino, N. Y.

## MINNESOTA.

### How the Bees Have Wintered--Statistics.

Written for the American Bee Journal  
BY MRS. B. J. LIVINGSTON.

Bees have wintered well here, so far as I can learn. My 8 colonies were placed in the cellar under the dwelling-house on Dec. 15. About the middle of March, one colony began to spot the front of the hive; I took it up through the house (the outside cellar-way being covered with ice), wrapped up the brood-nest well with old quilts, and left it out. It is doing splendidly.

The other 7 colonies I took out to the summer stands on April 10, for on that day the other bees began to carry in their first pollen. All wintered well—there seemed to be more bees than when they were put in for winter. Notwithstanding the complaints of the uneasiness of bees caused by warm weather, mine seemed to be almost perfectly dormant, owing, perhaps, to the cellar-wall being over 20 inches thick. Outside warmth was slow to affect the temperature of the cellar.



The colony that had to be taken out for a flight, had been disturbed by a rat.

The bees began to work on elm blossoms on April 14, and kept it up 4 days; they acted as if they were getting honey.

I watch the BEE JOURNAL for all reports from Minnesota bee-keepers. I believe this to be a great honey-State, especially near the lakes, where linden abounds. There seems to be always something in our groves for the bees.

I send a seed-label which came with seed that I tried last year. It is called "honey or bee clover" (*Melilotus caeruleus*), and came from the United States Department of Agriculture. It is not "sweet clover," but I should call it an aromatic clover. It came into bloom within 6 weeks after sowing, which was right in linden bloom. I did not see a bee on it, and it was gone as soon as the linden. It might do better in a season not so dry, but I think that it is perfectly useless here.

I do not believe that there are over 300 colonies of bees in this county. The largest apiaries of which I am informed, are owned by Mrs. Josiah Smith, who has 50 colonies; William Sutor, 100; Cornell Personrus, 100; G. W. Ott, 20; F. S. Livermore, 10; and J. H. Johnson.

This list is nearly, if not quite, correct. If those owning 5 or more colonies in this county (Martin) would send me a statement on a postal card, I should be very much obliged. Also, please state if your bees are wintered in trenches, in the cellar, or in chaff hives; and also give the per cent. of loss during the past winter.

Center Chain, Minn., April 21, 1890.

## RUSSIA.

### An Interesting Account of Bee-Keeping in Russia.

Translated for the American Bee Journal  
BY REV. STEPHEN ROESE.

There is not another country in Europe where bee-keeping can be carried on to such success as in the domains of the Czar of Russia, and no other country is blessed with such large territories of rich honey-yielding heather as Siberia; nowhere can such immense forests be found as in Western Russia and in Caucasia, and nowhere do we find buckwheat fields, rape, dathe, etc., as in middle Russia, especially Russia Minor. One who has never been in Russia, can form no conceivable idea of the grand forests, hundreds of miles in extent, where bears, wolves, and other wild animals have their home and abode; and much

less idea can be formed of the many thousand miles of heather which extend beyond the Ural, where grass and flowers grow in abundance. Bees are kept all over Russia, even at Archangel, at the extreme north, at Tirim and Caucasia in the south, and at Siberia in the east. Farmers and noblemen both engage in this pursuit, for profit and pleasure.

But in spite of all their advantages, bee-keeping in Russia has as yet not been placed on a rational footing—late improved movable-frame hives are not in practice; in localities where forests are near, hollow trees are used as hives, and such hives are in use among farmers and noblemen.

About 10 or 15 years ago bee-keepers in Russia had their attention called toward modern improvements, which credit is due to Mr. Butlerow, Professor of Chemistry at Moscow, bee-keeper, and editor of the Russian bee-periodical.

In northern Russia, Herr Lubareff, present editor of the Russian bee-periodical, has constructed a combination hive, consisting of the Cowan and American hive, which he calls Anglo-Americanwiska hive, recommending it in preference to all others as the only one worthy of use.

In middle Russia, Herr H. Podalsky is the only one manufacturing comb foundation, and sells the same for one rubel (about 55 cents) per pound.

The Director of the Gymnasium at Kiev, has become noted by publishing works on apiculture, and introducing a hive called the Lewitzki hive.

A Mr. Ranmowitsch, priest of the Greek church, also publisher of a practical work on bee-keeping, was the first one who introduced the manipulating hive from Galicia into Russian country.

Honey in the comb is sold only in large cities, such as St. Petersburg, Moscow, Kiev, Odessa, etc., and not very extensively at that, owing to the extensive sugar manufacturing, which has affected the use and sale of honey very materially.

Extracted honey is not offered on the markets in that country, and its use is very limited, but can be purchased of Stichomiroff or Podalski in Kursk. The markets in cities, as a rule, carry mostly pressed honey, which is not of good flavor, owing to its process of preparation, the comb containing bee-eggs, larvæ, young bees, pollen, etc., and are broken up and pressed, and, as a consequence, such honey is not very palatable. A better quality, which is strained, or drained out from the cells, is sold in large cities at high prices—from 50 to 70 kopeks per pound. This is the linden honey, clear and fine in flavor.

In Russia Minor, large quantities of honey are used for "met," without which the annual celebration of church consecration cannot be enjoyed.

A year ago the Consistory (Church Synod) issued a circular to all bee-keepers, requesting them to sell all their beeswax direct to the church (instead of wax-candle manufacturers) for religious worship, on account of too much adulteration; for the patriarchs, and Greek church rules, demand pure beeswax for such candles.

As the press and sound literature are the heralds of glad tidings, it is hoped that Russian apiarists will ere long stand in the ranks with modern bee-keepers, represented by numerous periodicals, and keep pace with the body in the onward march.

Maiden Rock, Wis.

## HIVES.

### Small or Large Hives in Which to Winter Bees.

Written for the American Bee Journal  
BY M. L. BARNEY.

In regard to the article by Mr. A. J. Fisher, on page 265—"Small Hives vs. Large Hives"—I would say that it is a problem with us all. Certain conditions are in favor of both large and small hives, theoretically. The hive that I use, known here as the "Badger State hive," contains 853 cubic inches. I have always wintered my bees in that capacity, and never have had to resort to the sugar-barrel.

In the spring I keep the bees all closed down until the real honey harvest has commenced in good earnest, then I put on a super the same size, and may be 2 or 3. When I am extracting, I put aside one full frame of honey to winter on. In the fall I close them down to the main hive, having it full of good honey, and put them into the cellar, where they remain until the willow blooms. I have taken from these diminutive hives 2,400 pounds of honey from 14 colonies, spring count. Taking increase and honey into consideration, I think, and do know, that I outstrip my neighbors who use larger hives.

Now for some facts: I have a winter depository that is almost frost-proof, and very dry, and well ventilated. I put my bees into the cellar first, and then come my neighbors and deposit 100 colonies along with mine. We put our bees all out on the same day. My bees are quiet, while the bees put in at the same time, are all in an uneasy condition—and why? Theirs have as much honey as mine.

My hives being exactly square, the bees are in a natural condition, and



all the honey is directly over the cluster, so that the heat of the bees keeps the honey in an accessible condition; while the bees put in by other parties, having a like amount of honey (and some to spare), have eaten the honey all out directly over the cluster, while there is plenty of honey at the ends of the frames. Now you see that the bees are not in a natural condition—and why? The heat that the bees generate is not directly under the honey. The bees are working with all their energy, changing from one side to the other; a portion of the hive will be damp, and the bees very restless. I think that plenty of honey directly over the cluster is very essential.

Hartford, Wis.

## BEES LYING OUT.

### Does Lying Out of Bees in Front of Hives Entail any Loss?

Written for the American Bee Journal

BY GEO. F. ROBBINS.

Mr. J. W. Tefft, on page 569 of the AMERICAN BEE JOURNAL for 1889, claims this as a point of superiority of his hive: "My bees do not desert their hives even on the hottest days, but keep at work right along, simply because the provision for ventilation and shade secures their entire comfort." He evidently supposes that when bees cluster out in front of the hive, that they stop work. I presume that view is quite largely prevalent, and that it entails a consequent loss of honey. I more than doubt it. I do not think that "lying out"—as I have been taught to call it—is of itself any disadvantage.

What drives bees out? It is not always, or only, heat, although cool weather will drive them in. On very hot days, bees will desert the supers of hives that are not well shaded or ventilated; but it does not follow, necessarily, that they stop work. Warm weather, an over-crowded hive, nothing to do, or something to do in the way of wax-secretion—one or more, or, it may be, more or less of all combined—are the occasions of bees lying out.

It was the old notion that when bees begin to lie out heavily at the beginning of the clover harvest, it is an indication that they are going to swarm; and it is largely correct. Of course, we know that the conditions that cause one, will cause the other. Those conditions are warm weather, a crowded brood-nest, and a flow of honey. A few warm, close days will drive them out before the honey-flow commences, when but little clustering would be done if there was any nec-

tar to gather. Likewise, when bees begin to lie out very heavy, later in the season, after swarming is all over, it is a pretty good indication that the harvest is failing. In those cases there is nothing to do—and they do it. But it does not follow that lying out always means idleness, in its exact sense. It is true that they do appear to slack up work for a few days before swarming, but that slacking up is more apparent in results than in actual signs of activity; and the new swarm develops an energy and achieves results that nearly, or quite, make up for lost time.

Just before swarming, less honey is stored—afterwards, more—that is all. About as much honey is gathered in the one case as in the other. In the first, the honey goes to the secretion and accumulation of wax; in the second, the accumulated wax is quickly built into comb, which can be quickly filled with honey. Now it may be that not quite so much honey comes in during this preparation for swarming; but any system that permits swarming will have the same effect.

Now, why this clustering to secrete wax? Simply this: Wax is fatty matter, and to accumulate fat to the best advantage, inaction is necessary. To be sure, a certain quantity of wax may be secreted in a natural way during the process of labor. A horse or an ox will, when well fed, put on their normal quantity of fat, and work all the time. Or a fowl may lay her normal number of eggs while foraging for, and digesting, food. But to get the most fat on a steer, or the most eggs from a hen, they must be kept largely in a state of inaction. So, a bee may secrete a fair proportion of wax while gathering honey, but much more is obtained with a measure of repose.

Bees hang in surplus boxes to make wax, and to obtain the necessary temperature to work it—I believe more for the former purpose, than the latter; hence, when bees meditate swarming, they "hang" both in the sections and out in front, and after the new swarm is hived, the bees will hang out in front until the following morning. During this time, the honey with which they had gorged themselves before issuing, is converted into wax. Then as soon as the sun begins to dissipate the dews, the cluster outside begins to grow smaller, and, by 9 or 10 o'clock, it has disappeared. So far, if bees must build their own comb, there is no loss.

Of course bees lie out more on long, hot afternoons than in the forenoons. This is because the nectar has partially dried up, and there is not so much to gather. Then, I think, it is when much of the wax which Mr. Hutchin-

son and others claim to be secreted in a normal way, accumulates. If the honey-flow would continue undiminished throughout the day, I think that the difference between the quantity stored in the combs, and in sections where the comb must be built, would be much augmented. I know that the rapidity with which honey comes in, depends upon the measure in which the season and bloom favor it—not upon how much the bees lie out.

I do not think that it is the best plan to allow the bee-hives to become so heated by the heat of the sun, and the want of a free circulation of air around them, as to drive the bees out of the supers. Still I doubt if the storing of honey is hindered by it, because it only happens at the time of day when but little honey is coming in.

Mr. Tefft argues that he can get three or four times as much honey by keeping bees in one strong colony till after the harvest, as he who allows swarming. I do not believe it. I have no doubt that the claim is honestly made, but I think that he is simply mistaken. If I am wrong, I am willing to be righted. If any have actual testimonies to give to that effect, let us hear them, by all means.

Mechanicsburg, Ills.

## SWEETNESS.

### A Few Observations About Nature's Sweet.

Written for the Prairie Farmer

BY MRS. L. HARRISON.

The Giver of all good has provided us with a pure sweet, which can be had not for the asking, but for the taking. Nature's chemist makes no mistakes, puts in no unhealthy ingredients of sulphuric acid or lime; her kettles neither boil over nor burn. Her utensils are all fresh and clean, for they have never been used in manufacturing before, and her laboratory is located in fresh air and sunshine, and the distillation takes place in the corollas of flowers. The gatherers are the bees, that sit on the bloom, extracting liquid sweets which they deposit in their sacks to carry home to their hives, where it is canned. The workers are clean and tidy, distinguished for their business qualifications and despatch.

Every farmer's family should have a liberal supply of honey, and the surest way to get it is by owning bees. Then every flower blooming in the hedges, fence-corners, brush-pile, or roadside, becomes a source of revenue.

The following, copied from the *British Bee Journal* of a recent date,



shows how bees are regarded by horticulturists across the Atlantic: "I have about 30 colonies of bees at Beebles, standing at the south end of a long garden containing a large number of fruit trees. At the time the trees were in blossom last spring, east winds prevailed, which prevented the bees flying far. The result was most striking. Those trees (plum, apple and pear) surrounding the hives were heavily laden with fruit, whereas the trees in the other parts of the garden away from the bees, had but little fruit upon them. In conversation with the owner of the garden last autumn, he remarked, 'I wish there had been bees all over the garden.'"

Many persons claim that it is better to buy honey of the specialists than to produce it. This season in some localities, one bushel of oats would buy one pound of honey. Which can work cheapest, men and horses, or bees? To produce a bushel of oats, first there must be ground to grow it upon; then it must be plowed, harrowed and sowed. When it is grown, cut and threshed, and hauled to market, it must be sold to get the needful to buy one pound of honey.

A family is not nearly as sure of getting a supply of honey when they depend upon buying it, as they are when bees bring it to them. It is something like this: "An old lady who wanted a feather-bed, proposed to raise geese, and pick their feathers to make her bed. Her husband said, 'No; if you want a feather-bed I can raise the feathers easier for you on my hogs' backs than you can on geese, and I will not have them squawking around, for no one can speak without their setting up their cry.' She waited until the day of her death for feathers to grow on hogs' backs, but her bed never materialized.

Peoria, Ills.

## BROOD-REARING.

**The Apple-Bloom, Clover, Large Hives, Honey-Dew, etc.**

*Written for the American Bee Journal*  
BY ALLEN LATHAM.

I went home to Lancaster, Mass., during our Easter recess, and found my bees in a very backward condition. The cold weather of March had prevented brood-rearing, and the bees acted as though it was mid-winter. As I am looking for a fine yield of honey from apple-blossoms, I was somewhat disappointed at the outlook. I fed and dosed the bees that week, leaving them on April 8, awakened to the fact that spring was coming.

Last Saturday—April 19—I again went home, and I wish that those beekeepers who have never packed bees on the summer stands, could have been present when I opened the hives. For nearly two weeks we have had pleasant weather, allowing the bees to gather pollen almost every day. Most of my colonies are on 6 frames, and every colony on April 19 was spread through the hive as in summer, and in most of the hives there were 5 frames of brood. Some frames were nearly full of brood.

Apple-trees will not blossom for more than two weeks, and I think that most of my colonies will be in condition to store 20 pounds each. I have no difficulty in selling all my apple-blossom honey at twenty-five cents a pound.

Clover is coming on finely. I think that it is the most promising spring for several years. It resembles very much the spring before the best honey season I have known since I kept bees.

### LARGE HIVES—HONEY-DEW.

Apropos of large and small hives, I ask these questions: Of what use is a large brood-nest after the main honey-yield has opened? What is the use of a half-bushel of bees when the season is over?

Now about honey-dew: Two years ago in July, there fell for several weeks, from a large elm which overtops our house, a species of honey-dew, so-called. I suppose that it came from aphides, although I am not sure. At some times it was liquid, and left shiny, sticky spots where it fell. At other times it came down in the form of minute grains, which were round, white, and somewhat soft. I swept up some of these "grains of manna" from the piazza; they were of the saccharine nature. The bees did not work on this substance any to speak of.

Cambridge, Mass., April 21, 1890.

## SPACING COMBS.

**Proper Distance to Space Combs—Cells in Foundation.**

*Written for the American Bee Journal*  
BY REV. W. P. FAYLOR.

In this modern age of progress, the art of apiculture, or bee-keeping, like nearly everything else, is attracting the strictest attention. The box-hive will soon be a thing of the past; the black bee is rapidly giving way to the 4 and 5 banded Italian; bee-papers are becoming quite numerous; the honey-extractor, the comb foundation machine, and many other late inventions speak for the progress of the day. Two

things, however, surprise me, viz: The tendency of bee-men to space the combs nearer together than the bees build them naturally, and the practice of making foundation cells smaller than the bees build them of their own accord. These two points I have been testing pretty thoroughly during the past 5 years.

I keep but a few colonies of the honey-gatherers, which gives me plenty of time to experiment. For the best results, all things considered, I now space all the combs  $1\frac{1}{4}$  inches apart, from center to center. I have proven, time and again, that bees are more liable to swarm where the combs are hung too near each other. When I kept Carniolans I observed that this was even more true of them. Then, if you knock a box-hive to pieces, you will find all the main combs placed not less than  $1\frac{1}{4}$  inches apart, and some possibly 2 inches.

Of course, the matter of brace-combs comes in here. Where the frames are spaced from  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches, the combs are always more or less braced to each other. I have not found it so by the way I now space combs. I can go to any one of my 10 hives, and find every comb separate and distinct.

We should bear in mind, too, that wide spacing gives more room for the storing of honey above the brood-nest, which is no mean consideration when we strike the winter problem. The above-named are a few of the many reasons why I space bee-combs  $1\frac{1}{4}$  inches from center to center.

### NUMBER OF CELLS TO THE INCH.

The idea of making 5 worker-cells to the inch of foundation, does not meet my observation. It will do pretty well for one or two years, but after a few years' use, the cells become entirely too small. Any queen-breeder knows very well that queens reared in little, cramped cells, are not nearly so large and nice as those reared in good, large cells. If the cell has anything to do with the size and utility of the queen, then the same rule must apply to the worker bee. I think that the "five cell" theory is a conclusion of a few months' test to rid the hives of drones, more than anything else. But why should we be afraid of getting a few drones in the hives? Why treat them as a nuisance? A colony of bees with plenty of drones, I have good reason to believe will store more surplus honey than will a colony without drones. I have had but one year's practical test upon this point, and that has been in favor of the drones. I am about to throw away my old foundation machine, and use one that will make  $4\frac{1}{2}$  cells to the inch.

St. Bernice, Ind.



## BEE-HIVES.

### Description of a Simple, Interchangeable Hive.

*Written for the American Bee Journal*

BY E. L. PRATT.

A bee-hive adapted to all-around work, and at the same time giving good results in honey, in connection with simplicity and wintering adaptability, has long been sought by progressive bee-keepers. We believe that such a hive will work its own way into popularity with very few words.

For many years we were staunch advocates of the hanging frame, but since we have the wonderful wintering record of a closed-end frame, we shall use it until something better is found. There is a great saving of stores, when this style of frame is used, where bees are wintered out-of-doors, and, in spring, one-third more brood can be cared for.

The frames of this hive are reversible, either singly or as a whole, and they are constructed in such a manner that no brace-combs can be built anywhere about them. They are easily removed and replaced without the usual slow lateral manipulation. Foundation can be fitted into these frames with one-fourth the time and work necessary in the ordinary way, and no wiring need be done, as the frames are built "plumb" full of comb, and are just as strong as wired frames.

Full sheets of foundation can be put into the frames with strength enough to bear a heavy swarm, by the simple and expeditious device employed. There are no corners on this frame to bother, nor projections to strike against each other; no crooked combs can be built. Each frame has a permanent space which ultimates in perfectly flat frames of brood, and smooth, straight spaces between them, just the correct distance to force surplus honey into the supers. There is no chance to crush bees while handling the combs.

The frames are simple and inexpensive, and easily put together. Inside measurements are 8½x17 inches—just the correct size to admit eight 4½x4½ standard honey-sections in wide frames, either above or below, or the little combs used in the new method of nuclei management in combination with full colonies.

For comb honey we recommend an 8-frame hive adapted to tiering up. For extracted honey, there is nothing better when half-depth supers are used, and they should be used, as they are easier to handle, and are in every way much better than large combs. However, if the large comb method is

preferred, an extra set of brood-frames is all that will be needed.

The body of the hive is in two parts, each having convenient hand-holds for convenience in lifting. Each part of the body can be used for a super, and each super can be used as a part of the body, which is a convenience that all experienced bee-keepers will appreciate, because it does away with about one-half the paraphernalia, and is always convenient in a hundred and one ways.

To better explain, we will say, that two supers will make one body to hold brood-combs, and one body will make 2 supers to hold honey-sections or extracting frames. By having supers and brood-chambers all built exactly alike, expense and complication are greatly modified, manipulation is lessened, and there is never any idle furniture. Time in construction is saved, and we are always ready for an emergency.

The bottom-board and stand on which the hive rests, is so constructed that the entrance can be at the front, in the ordinary way, or at either side. In the spring, there are always weak colonies that need to be contracted to 2 or 3 combs, and it is better to close them up next to one of the side entrances, than to allow them to fly from the front. They can be kept warmer, and built up to better advantage by giving them a side entrance.

Two small colonies can be wintered in the same hive with a side entrance to each. Three queens can be wintered over by the use of 2 division-boards and all 3 entrances. In hot weather, a large colony can be ventilated grandly by throwing open all the entrances, and placing screen-cloth at the sides. Ample alighting places are left at the front and sides, which act as supports for a thin winter-case to admit of packing in winter.

Thus we have the advantage of a chaff, or double walled hive without its disadvantages. This hive can be worked like a single-walled hive in summer, and a double-walled hive in winter. The winter-case is not in the way at all, if left on the year round. The manner in which the bottom-board can be made fast to the hive body, is very simple and strong.

We need not explain the construction of the super shells, as they are exactly like those used for the brood-chamber. They are all halved together, which makes them strong and durable. The end-pieces are rabbeted so as to give finger room to manipulate the section holders, and to make a narrow bearing surface where the shells come together to hold brood-frames.

The section-holders are so constructed that the honey-sections are thor-

oughly protected from bee-gule and soil. They can be interchanged and reversed with ease, and any style of 4½x4½ section can be used, with or without separators. The holders take 1½-inch wide sections, or 7-to-the-foot, conceded to be the standard.

For extracting combs, simply fill the section-holder with foundation, and have it drawn out and filled the same as with comb honey. Each frame will weigh about 5 pounds when well filled; if large extracting combs are preferred, another body can be tiered up.

If colonies are found in danger of starving, put on a super containing 4 or 5 shallow extracting-combs of honey, and they will be all right, with no danger of starving even in winter. One of the supers filled with shallow brood-frames will make a first-rate queen-rearing nucleus. The cover is cleated, and will fit any part of the hive, and each part of the hive will fit the bottom-board.

The winter-case is made of ¾ stuff, and cleated so that each part is strong, yet very light. If desired, this case can be made separable, and the sides used during the summer for shade-boards, or stacked away. No packing need be put about the hives until the bees begin to breed in the spring, but there should be plenty of absorbent material over the frames to carry off the moisture coming from the cluster. Ventilators are provided in the winter roof, and the packing is always sweet and clean. There is no chance for a leak when packed for winter. We can enjoy ourselves in cold weather, for we are sure that our bees are coming through as strong as they were in the fall, when this simple, interchangeable standard hive is used.

## HONEY-DEW.

### Source of Honey-Dew, and Its Effect on Bees.

*Written for the American Bee Journal*

BY T. C. KELLY.

My attention has been called again to the subject of "honey-dew." There are many opinions in regard to its origin. I, for one, do not believe that it is the "dew of heaven;" nor do I believe that it is the excrement of a species of aphides. It is a well-known fact that there is held in solution in grass, leaves, and also in the wood and bark of many of our forest trees, a saccharine matter which, under chemical processes, can be brought out, or extracted. A few years ago, a large amount of a dark, disagreeable substance was gathered by the bees in this vicinity, which soured in the hives,



causing the greatest mortality among the bees that was ever known in this part of the country; while in some seasons the bees gather honey-dew that is of a light color, and no bad effects follow.

Last fall, a bee-keeper (older than I) prophesied a great fatality among the bees the last winter, on account of much dark honey being stored in the fall; and claimed that it was honey-dew. I disagreed with him, and claimed it to be a mixture of buckwheat and boneset—in the forenoon the bees were busy on buckwheat blossoms; in the afternoon they worked on the boneset until dark; and, the result is, bees never wintered better, or were more healthy in the spring.

I am of the opinion that the honey-dew is a secretion in the leaves, which, under certain conditions of the atmosphere, is forced to the surface; therefore, these insects having a "sweet tooth," find it and congregate there to feed upon it. Nature's laws make the honey, and the bee is the collector of these stores; but let those advocates of the excrement theory sample some of the productions of the bees in that line, and see how much sweet is in it.

Mr. Tyrrel says, on page 264, that trees covered with lice and slugs, and those only, produced honey-dew. Now I do not think that he lives in a wooded country: I have found leaves covered with this honey-dew, but on applying the microscope, I could not detect the presence of any insect. I would be pleased, if some of those believers in the "excrement theory" would be kind enough to send me a dead or dry leaf this summer, having the honey-dew and the apis on it. Pluck it from any tree that can be found in the timber. "The proof of the pudding is in the eating."

Slippery Rock, Pa.

## LOSS IN WINTER.

### Why Did the Bees Leave their Hives so Abruptly?

Written for the American Bee Journal  
BY G. N. BENHAM.

There was a terrible loss of bees all over this section of country, during the past winter. We had a very mild and open winter here, plenty of ice, and but little snow, as the sun would melt the snow to a slush, and at night it would freeze, making the roads a solid bed of ice.

As I reported last winter, I had 42 colonies of bees in the cellar, and a good portion of the time I had to open the outside cellar-door, and also the cellar windows, besides giving upward

ventilation through the chimney. I carried great quantities of snow and ice into the bee-cellar to keep the bees as quiet as possible, but one reason I ventilated so thoroughly was, to clear the cellar of a most terrible stench that came from the hives. I made a long hook of heavy wire, that I used to reach into the hives where dead bees accumulated, and pulled them out, thereby giving the bees plenty of fresh air in their time of trouble.

The hives were badly spotted all over the fronts, some of them even to an eighth of an inch thick on the alighting-board. I am a beginner, and how I did it, I scarcely know, but I only lost 3 colonies in the cellar, and 2 of these I can account for, as one starved, and the other was queenless, but the third died of this "mysterious disease," as the old bee-keepers call it.

I would like to be enlightened on the probable cause of this great loss of colonies.

Then, we have sustained a great loss of colonies this spring in another way. On April 11, the temperature was from 80° to 86° above zero in the shade, and the country was alive with bees, swarms, queens and all, going in every direction, leaving their hives never to return. I had 4 swarms come out, but I was on hand, and stopped them; I gave them clean hives, and plenty of honey, and they are doing well. One of my neighbors had 24 colonies leave their hives the same day—in fact, we all suffered more or less loss that day.

I would be glad, indeed, to know what caused these colonies to be so displeased with their old home as to leave it, and go in search of a new one. I would suggest two reasons, viz: 1. The hives were so filthy, and the colonies so reduced, that they could not clean them, and they would not live in such filth. 2. Hunger was "staring them in the face."

I have bought a few more colonies this spring, enlarging my apiary to 46 colonies. I am feeding only such colonies as need the honey to eat. I have induced one old bee-keeper, who has 40 colonies in box-hives, to use the Langstroth hive, and to exchange the "starch-box caps" to the super and one-pound sections.

Red Wing, Minn., April 25, 1890.

The Report of the proceedings of the 20th annual session of the International American Bee-Association contains, besides the interesting report, the new songs and music then used, and engravings of the present officers as well as the retiring ones. In all, it contains 36 pages. It is for sale at this office. The price is 25 cents, post-paid.

## CONVENTION DIRECTORY.

1890. Time and place of meeting.

May 10.—York and Cumberland, at Buxton Ctr., Me.  
C. W. Costellow, Sec., Waterboro, Me.

May 12.—Cortland Union, at Cortland, N. Y.  
M. H. Fairbanks, Sec., Homer, N. Y.

May 17.—Haldimand, at Cayuga, Ont.  
E. C. Campbell, Sec., Cayuga, Ont.

May 20.—Northern Illinois, at Cherry Valley, Ills.  
D. A. Fuller, Sec., Cherry Valley, Ills.

July 17.—Carolina, at Charlotte, N. C.  
N. P. Lyles, Sec., Derita N. C.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

### International Bee-Association.

PRESIDENT—Hon. R. L. Taylor, Lapeer, Mich.  
SECRETARY—C. P. Dadant, Hamilton, Ills.

### National Bee-Keepers' Union.

PRESIDENT—James Heddon, Dowagiac, Mich.  
SEC'Y. AND MANAGER—T. G. Newman, Chicago.

## SELECTIONS FROM OUR LETTER BOX

### Good Prospect for White Clover.

Bees wintered pretty well in this part of the country. They were all left on the summer stands, with only a few boards put around them to keep off the wind, and some without any protection at all. They are having a good time now; trees are in full bloom, and there never was a better prospect for white clover. There are plenty of brood and young bees in the hives, and we can expect a swarm any day.

Ed. E. Schmidt.

Carpenter, Ills., April 28, 1890.

### A Simple Honey-Board.

I have noticed two or three remarks lately in the BEE JOURNAL, by prominent bee-keepers, to the effect that when the openings from the brood-chambers to the surplus department was much less than those in the ordinary slatted honey-board, still it seemed to make no difference in the amount of honey stored. That being the case, why not make the honey-board with only two or three broad slats! or have it simply one solid board, with two or three long slits cut in the centre! A queen excluding strip could be tacked over these, if desired. It seems to me that such a board would be much easier to make, and, moreover, stiffer than the slatted board.

HORACE N. JONES.

Clay Center, Nebr., April 25, 1890.

### Large or Small Hives.

The schools of to-day impart information by object lessons. The eye sees things when the rod fails to make any impression on the mind for good. For the 99th time, "large or small hives" have been harped upon. A small hive is not advocated by a solitary writer, but a small brood-chamber is a different matter entirely. My object lesson will show this difference, which Mr. Fisher has not learned in his 30 years' experience, as given on page 265. The brood box or chamber is 13 inches wide from front to rear, by 13½ across the frames, by 10½ deep below the rabbets, containing 9 brood-frames which are the



equivalent of 9 Gallup frames in square inches, as nearly as figures can be put together. To this brood-box we can add a pantry and store-room at the ends, making the hive 24 inches long on the inside, and have a half or full story above. Is this a small hive? But to make the object lesson effective, we take 5 T supers for the 8-frame Langstroth hive. They are scant 18x18x4½ inches deep, I believe. We stand one in each end of the hive, and there is 4½ inches yet to the under side of the cover—space for half a super more. We tier up 2 more supers between and over the brood-frames, the space being 14x15 inches—here we will have to cut some, but the room is ample to store away all of the 5 T supers. Is this hive small? In Mr. Fisher's 30 years' experience, has he ever seen one much larger? JOHN A. KING.

Mankato, Minn.

### Improvements in Extractors.

It seems to me that one of our most practical implements in the apiary is being neglected, or I fail to be up with the times—this is the extractor. I see but little written in the way of improvements on this machine. I have three in use now, but they are all deficient. Will some of our liberal bee-keepers furnish suggestions and light on this subject? I want to buy the latest improved for this season, to last till there is a better one. F. H. WALKER.

### Wintered Well—Loss by Fire.

Bees, I think, have come through the winter in good condition, although I have heard some complaint from those who had bees in cellars. My bees, wintered on summer stands in single wall hives, are in better condition than I ever had them so early in the season. At about 3:30 o'clock, on the morning of April 14, my father-in-law, Mr. S. B. Landon, of Brookton, N. Y., lost his dwelling-house and most of its contents by fire; 60 colonies of bees in the cellar were entirely consumed. The loss was covered by insurance, which included the bees. WILBER G. FISH.

Ithaca, N. Y., April 28, 1890.

### Transferring Bees.

The article by Mr. Julius J. Petty, on transferring bees, found on page 265, is, in substance, what I have intended writing, and now I would like to add one or two additional ideas. First, emphasize Bingham's smoker instead of enclosing in a parenthesis; and the box is to be preferred to any way that I have ever tried, only I should use a nail-puller instead of a cold-chisel, cutting around the nails before drawing them, letting the bees go up into the box as I cut out the combs, the hive being in an inverted position. They will all get out of the way.

Next, I should use boards (division-boards) covered with batting, and then with oil-cloth; lay the combs on the board, cut to fit a frame with 1, 2, 3 or more pieces. Lay strong wrapping-twine across; the number according to the weight of the combs and number of pieces—6 is usually sufficient. Lay it on another board of the same kind, invert it, and tie with the surgeon's knot, namely, with two loops instead of one. With this knot, you can tie it so that it will not slip, and I think this has been the trouble with using twine. I formerly used sticks, but I have now discarded them, except where combs are very heavy, and the frame is less than ¾ of an inch thick. The V notch I thank Mr. Petty for—if not original with him, it is new to me, and of great advantage in transferring crooked

combs. I have never been able to transfer bees out-of-doors—it should be practiced only by the skilled in bee-keeping.

I formerly thought that I could transfer bees only early in the season; now I should hesitate only in extremely warm weather—say 82 degrees in the shade. Last season I transferred a number of colonies in hives containing 40 or 50 pounds of honey. The worst time is during a heavy honey-flow, when the jarring of driving and of cutting nails (with a cold-chisel) daubs the bees with the new honey. I should use a nail-puller, by all means, or a saw that will cut nails would be better.

In placing in the hive, raise the comb with the board until in a vertical position; use all the combs if you work for extracted honey, and discard all drone-comb if you work for comb honey. Straighten crooked and bulged combs by laying them between two boards, and standing on them, as directed by Mr. Doolittle. This applies to combs not filled with honey. Thick and bulged combs can be used by trimming them down after they are fastened; such combs should be given to some strong colony, by hanging them in an upper story.

I should not wait longer than 3 days to remove the twine—in strong colonies, on the second day. The scraps of brood I should also give to some strong colony, by placing them in a vertical position in a second story. If the weather is cool, cover with a gunny-sack, as this is bulky, and works nicely in a second story.

As to re-queening, I should do it whenever I had queens or cells. It is often easy to find a queen while transferring. The temperature of the room should be from 66 degrees upwards. I find 66 degrees sufficient. A slanting platform covered with wax, or a box with a perforated platform—false bottom—to lay scrap combs on, will, if you have much transferring to do, be a great convenience. Have water and towels, and keep everything neat and clean. Thanks to Messrs. Petty, Doolittle and others for an advancement in transferring bees. THOS. A. ANDERSON.

Gamma, Mo.

### Bees in Splendid Condition.

Bees are in splendid condition. On Nov. 22, I put my 14 colonies of bees into the cellar under the house, and took them out on April 6, all alive. I put 4 inches of chaff on top, on the brood-frames, and that kept the combs as dry as they were last fall. There were about 3 quarts of dead bees on the cellar floor. It was between 42 and 45 degrees in the cellar all winter, which is well ventilated. My bees are all in the 10-frame Langstroth hives.

ROBERT SCHULTZ.

Alma, Wis., April 25, 1890.

### What Did Ail those Bees?

On page 249, Mr. Wm. Elliot gives a very plausible reason for the loss of my bees, but as a matter of fact, his reasoning does not apply to my case at all. Since I wrote the article on page 220, I have lost all of those remaining bees, excepting 15 colonies. A careful examination shows that there were over 50 of the 80 colonies Italians or hybrids. They are all dead but three, and one of those is in poor condition. I find that perhaps 10 or 15 swarms died of starvation, while the rest had from 5 to 30 pounds of honey in the hives. The honey is very nice buckwheat and golden-rod. There is no fruit in the town—the honey is nice, and will readily sell for 20 cents per pound.

Mr. Elliot thinks that the bees must have stored the most of their honey in the boxes—from all the Italians I had obtained less

than 100 pounds of surplus honey last year; while from 6 colonies of blacks that were standing in a group, I took over 500 pounds of nice comb honey. Every black colony I had gave more or less surplus. I cannot explain why this happened to be so, but it is a fact, nevertheless.

I have lost, from the 80 colonies put into the cellar, 65; less than 15 of them being black bees. Now what did all them? I have cleaned up the old hives, placing about 10 pounds of nice honey in each hive. I have purchased 105 very large, full colonies of black bees in the old-style hive at a bargain, and shall go at it again this summer with more vigor than ever. I think that I will let the bees swarm naturally, and unless the new swarms are very large, I shall put 2 into each of the hives I have prepared. The 10 pounds or more of honey that I have put into the hives will give the bees a good start, and I presume they will do a good summer's work. Would any of the experienced bee-men advise me to transfer the bees at once, rather than let them swarm naturally? If so, please let me know. AKED D. ELLINGWOOD.

Milan, N. H., April 22, 1890.

### Empty Hives in the Woods.

DEAR EDITOR.—There is a law in this State that makes the setting out of a bee-hive in the woods, or any other place for the sake of catching bees, a misdemeanor, punishable by fine or imprisonment. Now, what we wish to know is, what possible harm can it do to any one? Does it in any way injure our neighbors who keep bees? Does it entice them in any way to abscond. We claim that it does not, but rather that it is a human act so to do, that the bees may have a decent place to set up house-keeping in, when they are driven from the parent hive. I wish that the matter might be thoroughly discussed, and decided either one way or the other. I think that the law is a foolish one, conceived in malice, and carried out in spite. I would like very much to hear what you and others think of it. R. B. WHEATON.

Middlebury, Conn., April 28, 1890.

[The law is one of the many very stupid enactments which disgrace the statute books of America by the ignorance, stupidity or venality exposed in those who inspired them. The only possible excuse is that some one may be enticed by a swarm entering the hive, and being cared for. But as the swarm would be lost to the owner, what figure does that cut in the matter?—Ed.]

### Heavy Losses in Wintering.

Bees in this region are in rather poor condition, as the winter was unfavorable. The bees gathered pollen during the entire months of January and February, but March and April have more than made up in severity for the preceding mild months. My own bees are doing well enough, but the losses among my neighbors' bees are heavy. M. A. KELLEY.

Milton, W. Va., April 28, 1890.

Postal Notes are no safer to use in letters than bank bills. Any one can get the money on them. A Money Order can be obtained at the post-office or at the express office for 5 cents (only 2 cents more than a Postal Note), and is perfectly safe; if lost it can be re-issued.





ALFRED H. NEWMAN,  
BUSINESS MANAGER.

## Business Notices.

Subscribers who do not receive their papers promptly, should notify us at once.

Money in Potatoes, by Mr. Joseph Greiner. Price, 25 cents, postpaid. For sale at this office.

Send us one NEW subscriber, with \$1.00, and we will present you with a nice Pocket Dictionary.

Red Labels are nice for Pails which hold from 1 to 10 lbs. of honey. Price \$1.00 per hundred, with name and address printed. Sample free.

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The date on the wrapper-label of this paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to advance that date another year.

Please send us the names of your neighbors who keep bees, and we will send them sample copies of the *BEE JOURNAL*. Then please call upon them and get them to subscribe with you.

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	Price of both.	Club
The <i>American Bee Journal</i> .....	\$1 00....	
and <i>Gleanings in Bee-Culture</i> .....	2 00....	1 75
<i>Bee-Keepers' Guide</i> .....	1 50....	1 40
<i>Bee-Keepers' Review</i> .....	1 50....	1 40
<i>The Apiculturist</i> .....	1 75....	1 65
<i>Bee-Keepers' Advance</i> .....	1 50....	1 40
<i>Canadian Bee Journal</i> .....	2 00....	1 80
The 7 above-named papers.....	5 25....	5 00
and <i>Langstroth Revised (Dadant)</i> .....	3 00....	2 75
<i>Cook's Manual (1887 edition)</i> .....	2 25....	2 00
<i>Quinby's New Bee-Keeping</i> .....	2 50....	2 25
<i>Doolittle on Queen-Rearing</i> .....	2 00....	1 75
<i>Bees and Honey (Newman)</i> .....	2 00....	1 75
<i>Binder for Am. Bee Journal</i> .....	1 60....	1 50
<i>Dzierzon's Bee-Book (cloth)</i> .....	3 00....	2 00
<i>Root's A B C of Bee-Culture</i> .....	2 25....	2 50
<i>Farmer's Account Book</i> .....	4 00....	2 20
<i>Western World Guide</i> .....	1 50....	1 30
<i>Heddon's book, "Success"</i> .....	1 50....	1 40
<i>A Year Among the Bees</i> .....	1 75....	1 50
<i>Convention Hand-Book</i> .....	1 50....	1 30
<i>Weekly Inter-Ocean</i> .....	2 00....	1 75
<i>Toronto Globe (weekly)</i> .....	2 00....	1 70
<i>History of National Society</i> .....	1 50....	1 25
<i>American Poultry Journal</i> .....	2 25....	1 50
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## HONEY AND BEESWAX MARKET.

CHICAGO, May 2.—Receipts of honey are light, and demand fair for choice white clover at 13@14c. Other grades are dull and neglected. Extracted, 6@7½c. Beeswax, bright, 25@26c.; dark, 23@24c.

S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, April 25.—Market is cleaned up on comb honey. We quote: White 1-lbs., 14c.; 2-lbs., 13c. Dark 1-lbs., 10@12c.; 2-lbs., 10@11c. Extracted is very dull sale at 5@7c. No Beeswax in the market.

CLEMONS, CLOON & CO.,  
Cor. 4th and Walnut Sts.

BOSTON, April 19.—Market is strong and well cleaned up on all fancy 1-lbs., at 16c. A small quantity of 2-lbs. on hand sells at 15c. Extracted, 8@9c. No Beeswax on hand. No off grades in any way can be sold here.

BLAKE & RIPLEY, 57 Chatham St.

CHICAGO, May 1.—Comb honey sells soon after arrival, if white and otherwise desirable, at 12, 13 and 14c; dark comb is slow at 8@10c. Weather is cool and seemingly favorable to its sale. Extracted, 6@8c, according to quality; some with no distinct flavor has sold at 5c. Beeswax—Yellow, about 27c; fancy, 28c; supply light.

R. A. BURNETT, 161 S. Water St.

MILWAUKEE, May 1.—Demand for honey is rather light. Supply is ample, of both comb and extracted. We quote: Best white 1-lbs., 13@14c; medium 1-lbs., 11@12c; common old 1-lbs., 9@10c. Extracted, white, in barrels and half-barrels, 7@8c; dark, in barrels and half-barrels, 6@6½c. Beeswax, 25@26c; supply light.

A. V. BISHOP, 142 W. Water St.

KANSAS CITY, May 2.—The honey market is cleaned up. We quote: 1-lbs. white, 12@13c.; 2-lbs. white, 10@11. Dark 1-lbs., 8@10c.; dark 2-lbs., 8@9c. Extracted, white, 6@6½c.; dark, 5c. Demand good. Waiting for the new crop.

HAMBLIN & BEARSS, 514 Walnut St.

DENVER, April 9.—1-lb. sections, 13@15c.; Extracted, 7@8c. There is sufficient comb honey to supply the market till the new crop arrives. Beeswax, 22@25c.

J. M. CLARK COM. CO., 1517 Blake St.

DETROIT, May 2.—Comb honey is selling slowly at 10@13c. Extracted, 7@8c. Beeswax, scarce at 26@27c.

M. H. HUNT, Bell Branch, Mich.

CINCINNATI, May 1.—Demand is slow for comb honey at 10@14c. No choice white on the market. Extracted is in good demand at 5@8c. Stock is low.

Beeswax is in good demand at 22@26c. for good to choice yellow. C. F. MUTH & SON,  
Corner Freeman & Central Aves.

## Convention Notices.

The next meeting of the Carolina Bee-Keepers' Association will be held in Charlotte, N. C., on Thursday, July 17, 1890.  
N. P. LYLES, Sec.

The spring meeting of the Northern Illinois Bee-Keepers' Association, will meet at the residence of D. A. Fuller, in Cherry Valley, Ill., on May 20th, 1890.  
D. A. FULLER, Sec.

The Cortland Union Bee-Keepers' Association will hold their annual meeting at the W. C. T. U. rooms in Cortland, N. Y., on Tuesday, May 13, 1890, at 10 a.m. sharp.  
M. H. FAIRBANKS, Sec.

The next annual meeting of the York and Cumberland Bee-Keepers' Association, will be held at Buxton Centre, Maine, on May 10, 1890, sessions at 9 a.m. and 2 p.m. An interesting programme is assured. A cordial invitation is extended to all interested to be present.  
C. W. COSTELLO, Sec.

We want of Volume 2 of the *AMERICAN BEE JOURNAL*—July, 1866, to June, 1867. Any one having it for sale may send us a postal card, saying what he will take for it. Do not send any numbers before we order them, for we only need one set.



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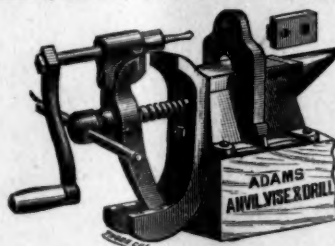
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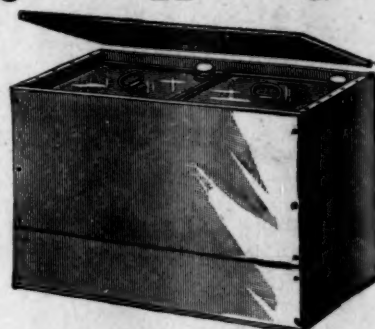
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100 " " " " .....	85.00

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